UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,486	10/03/2003	Christopher Brown	NOR-030 (16134RO)	1429

32836 7590 12/20/2007
GUERIN & RODRIGUEZ, LLP
5 MOUNT ROYAL AVENUE
MOUNT ROYAL OFFICE PARK
MARLBOROUGH, MA 01752

EXAMINER	
FOUD, HICHAM B	
ART UNIT	**PAPER NUMBER**
2619	
MAIL DATE	**DELIVERY MODE**
12/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

SK

Office Action Summary	Application No.	Applicant(s)	
	10/678,486	BROWN ET AL.	
	Examiner	**Art Unit**	
	Hicham B. Foud	2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _08 October 2007_.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1,2 and 4-20_ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1,2 and 4-20_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed on 10-08-2007 has been entered and considered.

Claims 1-2 and 4-20 are pending in this application.

Claim 3 has been canceled.

Claims 1-2 and 4-20 remain rejected as discussed below.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-2 and 4-20 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 10/678,812. Although the conflicting claims are not identical,

they are not patentably distinct from each other because the instant application claims a method and a system for communicating information between cards of a network and the copending application claims a method and a system for communicating protection-signaling information between cards in a network. Thus, the information claimed in the instant application is general and can include but not limited to the protection-signaling information claimed in the copending application.

For claim 1, claim 11 (amended) of the copending application No. 10/678,812 discloses a method of communicating protection-signaling information between cards in a network element, the method comprising: transmitting protection-signaling information from each of a plurality of tributary cards to a cross-connect card in an out-of-band; collecting the protection-signaling information obtained by the cross-connect card from the plurality of tributary cards; incorporating the collected protection-signaling information into an out-of-band signal; and simultaneously transmitting the out-of-band signal with the collected protection-signaling information incorporated therein from the cross-connect card to each tributary card in the plurality of tributary cards.

Claims 1-2 and 4-20 of the instant application merely broadens the scope of the claims 1-20 of the copending application No. 10/678,812 by not specifying what kind of information is communicating between the cards. Thus, it would have been obvious to the one skill in the art at the time of the invention to communicate any kind of information and not limiting on communicating only protection-signaling information for the purpose of increasing the efficiency of the system or add/enhance features by communicating any other information.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-2 and 4-10 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chi et al (US 6,654,341) hereinafter referred to as Chi.

For claim 1, Chi discloses a method of communicating information between cards of a network element in addition to data traffic being forwarded between the cards, the method comprising: transmitting a first out-of-band signal containing the information from a first card to a second card over a link dedicated to carrying out-of-band signals between the first card and the second card (see Figure 12; wherein Node 1230 is transmitting K-byte signal to switch 1240; inherently K-byte signal is an out-of-band signal because it is dedicated to transfer only signaling information). Chi discloses all the subject matter with the exception of simultaneously transmitting a second out-of-band signal containing the information received by the second card to a plurality of cards in the network element, but Chi also discloses transmitting a second out-of-band signal containing the information received by the second card to a plurality of cards (see Figure 12; wherein switch 1230 sends a K-byte signal to switch 1240 then to the switches 1210 and 1220), and also suggests that multiple rings may share a protection line by using K-byte signaling (see column 5 lines 10-14). Thus, it would have been obvious to the one skill in the art at the time the invention to simultaneously transmit the second out-of-band signal to more than one card (switch) for the purpose to have more back-up cards (switches) for redundancy to increase protection and reliability.

Claim 20 is rejected for same reasons as claim 1, since claim 20 is the system that is performed by the method of claim 1.

For claim 2, Chi discloses a method, wherein the first and second out-of-band signals are transmitted at a frame rate used for synchronous data transmission of optical signals (see column 4 lines 49-51; information is passed over SONET lines at the same rate).

For claim 4, Chi discloses a method, further comprising receiving the second out-of-band signal at one of the plurality of cards and determining which portion of the information in the second-out-of-band signal to process (see Figure 12 and column 6 lines 18-21, wherein the K-byte signal is received by the last switch 1220 which process the portion of information that indicates the use of protection line in ring 1205).

For claim 5, Chi discloses a method, further comprising detecting by the first card an opening of a latch precedent to removing the first card from the network element (see Figure 12; wherein Node 1230 detected a break as indicated by the "X"), incorporating an indicator of the opening of the latch in the first out-of-band signal, and including the indicator in the second out-of-band signal (see Figure 12; wherein switch 1230 sends a K-byte signal to switch 1240 then to the switches 1210 and 1220 and wherein K-byte signal is an out-of-band signal because it is dedicated to transfer only signaling information).

For claim 6, Chi discloses a method, wherein the information is status information (see column 6 lines 29-32; wherein the switch receives the K-byte signal that can include status information "fault").

For claim 7, Chi discloses a method, wherein the status information is at least one of a path status, a line status, a latch-open status, and a master-slave status (see column 6 lines 29-32; wherein information includes availability of protection line "Line status").

For claim 8, Chi discloses a method, wherein the information is one of a line protection request, a line protection acknowledgment, and a K byte (see column 6 lines 18-19; wherein K-byte signaling is used).

For claim 9, Chi discloses a method, wherein each out-of-band signal is a frame having a plurality of timeslots for each carrying a packet (see column 5 lines 10-11; frame STS-1).

For claim 10, Chi discloses a method, further comprising assigning particular data types to particular timeslots of the frame (see column 5 lines 10-11; frame STS-1).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty

defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 11-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Iacovino et al (US 2004/0085954) hereinafter referred to as Iacovino.

For claim 11, Iacovino discloses a method of communicating information between cards of a network element in addition to data traffic being forwarded between the cards, the method comprising: receiving an incoming data signal at a first card from over a network (see Figure 9 step 800; receive information); obtaining information from the incoming data signal (see Figure 9 step 840; extract error status); forwarding the incoming data signal to the second card at a frame rate used for synchronous data transmission of optical signals (see Figure 9 step 810; transmit signals to switch module); and transmitting an out-of-band signal containing the extracted information from the first card to a second card at the frame rate (see Figure 9 step 860, transmit OOBS to switch module).

For claim 12, Iacovino discloses a method, wherein the information is one of a line protection request, a line protection acknowledgment, and a K byte (see paragraph 0015; K1, K2 bytes are defined as APS bytes).

For claim 13, Iacovino discloses a method, wherein each out-of-band signal is a frame having a plurality of timeslots for each carrying a packet (see frame STS-1).

For claim 14, Iacovino discloses a method, further comprising assigning particular data types to particular timeslots of the frame (see frame STS-1).

For claim 15, Iacovino discloses a method, wherein the frame rate is 8000 frames per second (see page 3 paragraph 0044 lines 7-11; 125 us)

For claim 16, Iacovino discloses a method, wherein the first card is a tributary card and the second card is a cross-connect card (see Figure 6; Line module and switch module).

For claim 17, Iacovino discloses a method, wherein the first card and second card are tributary cards (see Figure 6; Line modules).

For claim 18, Iacovino discloses a method, wherein aggregating the received information by the second card in out-of-band signals transmitted from a plurality of cards (see Figure 9 step 910; wherein Switch module receives status bytes form all line modules via out-of-band signals).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iacovino et al (US 2004/0085954) hereinafter referred to as Iacovino in view of Chi et al (US 6,654,341) hereinafter referred to as Chi.

For claim 19, Iacovino discloses all the subject matter with the exception of simultaneously transmitting the aggregated information from the second card to a plurality of cards. However, Chi discloses transmitting a second out-of-band signal containing the information received by the second card to a plurality of cards (see Figure 12; wherein switch 1230 sends a K-byte signal to switch 1240 then to the switches 1210 and 1220 and column 6 lines 29-32; wherein information concerning availability of a particular protection line as well as information concerning a fault is distributed amongst the switching elements through K-byte signaling), and also suggests that multiple rings may share a protection line by using K-byte signaling (see column 5 lines 10-14). Thus, it would have been obvious to the one skill in the art at the time the invention to simultaneously transmit the second out-of-band signal to more than one card (switch) for the purpose to have more back-up cards (switches) for redundancy to increase protection and reliability.

Response to Argument

6. Applicant's arguments filed have been fully considered but they are not persuasive.

Regarding the double patenting rejection, the applicant cancelled claim 3 to traverse the rejection. However, cancelling claim 3 is not enough to traverse the double patenting because all claims were rejected (see the statement of rejection in Paragraph 2 on page 2 of the last office action). In order to traverse the rejection, a terminal disclaimer is needed to be filed.

Regarding the 103 rejection, in the remarks pages 8-10, the applicant argues the term "out-of-band signals". In response to applicant's argument, it is noted that the features upon which applicant relies (the status information is sent in parallel to the

SONET traffic stream and not within the SONET stream) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). However, the applicant defines the "out-of-band singaling" as "signaling that occurs independently of **or** separately from the signaling carrying the data traffic" (see [0022] of the applicant specification). From at least the applicant definition of the term, the K-byte signal of the reference Chi reads on the term because the K-byte signal does not have any traffic data and therefore occurs separately from the signaling carrying data traffic. Also, the term "out-of-band" is broad term that can also mean "outputted signal" as the term "in-band" can mean "inputted signal".

Regarding the 102 rejection, in the remarks pages 10-12, the applicant argues the term "frame rate". The examiner disagrees with the applicant for the following reasons: First of all, it is noted that the features upon which applicant relies (i.e., the same frame rate) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Second of all, it is not known how the applicant calculated the rate in the second paragraph of the page 11 of the Remarks using an example in the reference and excluding the examiner's citations. It is specified in the reference page 3 [0044] lines 10, that the SONET frames requires 8Khz or 125 us as specified in the applicant disclosure and claims. Finally, the claimed term "the frame rate" is broad term and can include any rate especially if the frame rate is variable and in this case can be equal to any rate.

Conclusion

7. **Examiner's Note**: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner. In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

When responding to this office action, applicants are advised to clearly point out the patentable novelty which they think the claims present in view of the state of the art disclosed by the references cited or the objections made. Applicants must also show how the amendments avoid such references or objections. See 37C.F.R 1.111(c). In addition, applicants are advised to provide the examiner with the line numbers and pages numbers in the application and/or references cited to assist examiner in locating the appropriate paragraphs.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hicham B. Foud whose telephone number is 571-270-1463. The examiner can normally be reached on Monday - Thursday 10-3 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T. Nguyen can be reached on 571-272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HF

Hicham Foud
12/17/07

Chau T. Nguyen

CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600